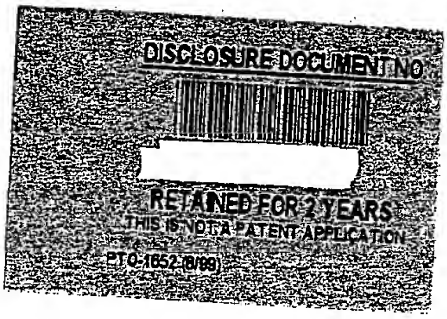
John F. McGeever, Jr.
1117 Oceanfront Street
Long Beach, NY 11561
(516) 889-9092



Commissioner of Patents and Trademarks
Washington, District of Columbia 20231

Request for Participation in Disclosure Document Program

Disclosure of: John F. McGeever, Jr.
Entitled: Method and device for underwater diver navigation

Dear Sir or Madam,

Attached is a disclosure of the above entitled invention (consisting of three sheets of written description and drawing(s) or photos), a check for $10.00, a stamped, addressed return envelope, and a duplicate copy of this letter and disclosure.

It is respectively requested that this disclosure be accepted and retained for two years (or longer if it is later referred to in a paper filed in a patent application) under the Disclosure Document Program and that the enclosed duplicate of this letter be date-stamped, numbered, and returned in the envelope also enclosed.

The undersigned understands that (1) this disclosure document is neither a patent application nor a substitute for one, (2) its receipt date will not become the effective filling date of a later filed patent application, (3) it will be retained for two years and then destroyed unless it is referred to in a patent application, (4) this two-year retention period is not a grace "period" during which a patent application can be filled without loss of benefits, (5) in addition to this document, proof of diligence in building and testing the invention, and/or filing a patent application on the invention, may be vital in case of an interference, and in other situations, and (6) if such building and testing is done, signed and dated records of such should additionally be made and these should be witnessed and dated by disinterested individuals (not the PTO).

Very Respectively,

Signature of Inventor

N/A
Signatures of Joint Inventors

John F. McGeever, Jr.
c/o (print name)

N/A
Print Name

1117 Oceanfront Street, Long Beach, NY, 11561
Address

N/A
Address

Enclosures:

As stated above.

Invention Disclosure

Inventor(s): John F. McGeever, Jr.

Address(es): 1117 Oceanfront Street, Long Beach, NY 11561

Tel & Fax: Home Phone – (516) 889-9092, Work Phone – (212) 449-6555
Fax – None.

Title of Invention: Method and apparatus for underwater diver navigation

Idea Conception: I came up with the idea of creating a better way to navigate underwater while diving one day off the east coast of Long Island, NY. While trying to locate a submerged wreck, I became disoriented and needed to surface to find my current location. At this point, I realized the need for an underwater navigation tool and started to develop an "underwater" Global Positioning System (GPS) based tool for divers.

Advantages of the Invention: The underwater GPS housing and antenna system I developed enables a diver to determine their position in relation to surrounding way-points while remaining submerged. This provides the diver with the navigation information necessary to find their way to a set of geographical coordinates or even back to the location they began their dive, such as a boat or beach, without first surfacing. The invention will also plot the area the diver travels underwater, allowing for accurate search and charting capabilities. The invention is small, simple, and available to individual divers for a reasonable cost, as opposed to the nearest similar solutions, which are large, complex and cost prohibitive to the individual diver.

Description & Sketch: The underwater GPS system is comprised of a submergible capsule that houses an off-the-shelf, handheld GPS unit. The capsule is attached via a length of cable to a float unit which houses a spring-loaded cable-reel, external GPS antenna, power source, electronics package, and dive flag.

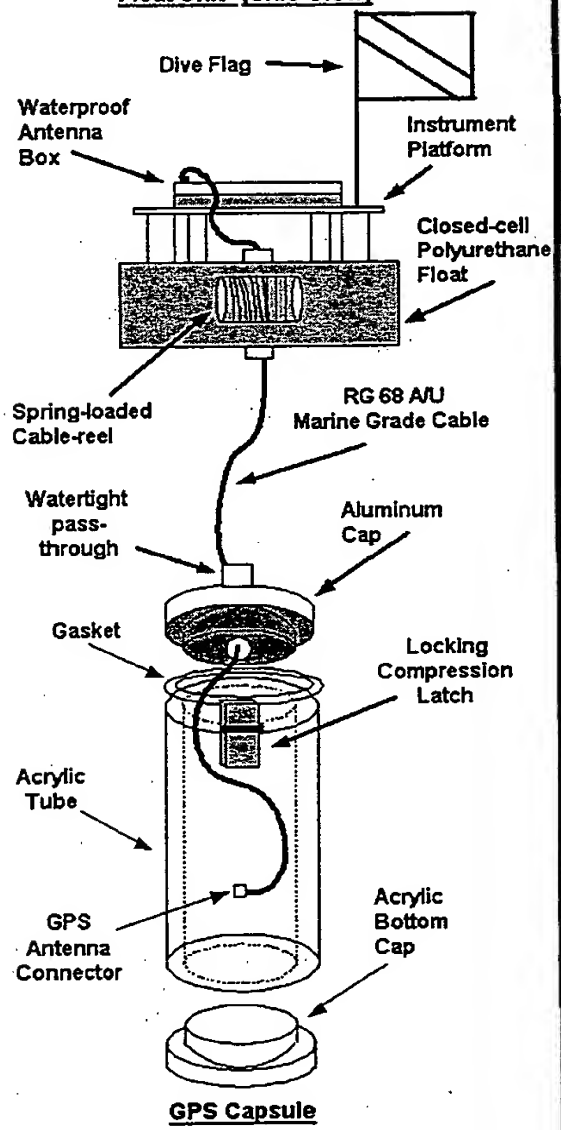
The diver would descend on his/her dive with the GPS capsule attached to their buoyancy control device (BCD); the float unit will remain on the surface of the water. The cable reel will dispense additional cable, and retract loose cable, with the accent and decent movements of the diver.

When the diver wishes to see their current position in relation to a set of pre-programmed way-points, such as the dive boat, he/she simply looks at the "underwater GPS" capsule to determine their current location, direction of travel and distance to each of the diver defined way-points.

Below, please find a diagram depicting the aforementioned invention components. The left half of the diagram is a side view of the assembled components (without handheld GPS), and the right half of the diagram depicts a top view and enlarged area showing a rough layout of the internal components.

DRAWINGS NOT TO SCALE

Float Unit (Side View)

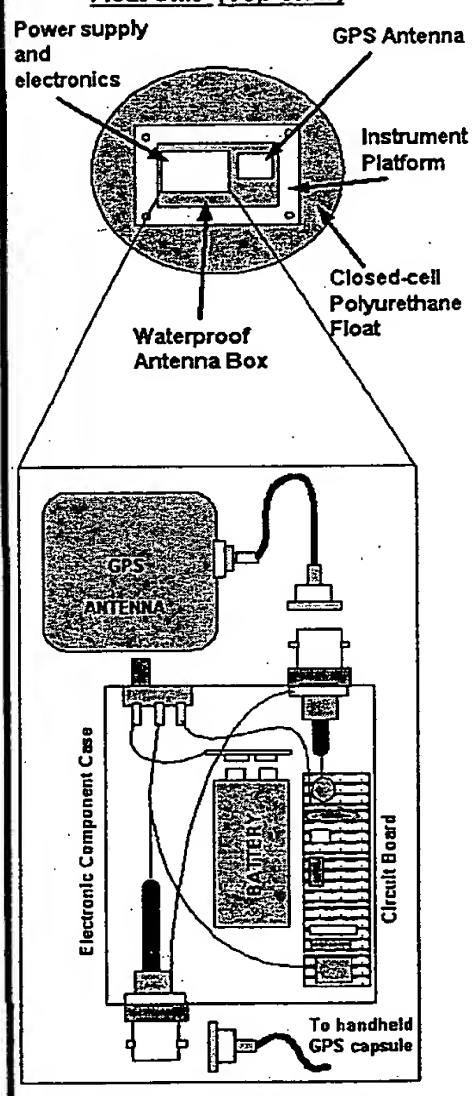


GPS Capsule

DRAWINGS NOT TO SCALE

DRAWINGS NOT TO SCALE

Float Unit (Top View)



Antenna Box (Blown-up View)

DRAWINGS NOT TO SCALE

Ramifications: As a result of this product, divers will be able to more accurately navigate to coordinates while underwater without having to surface. This will increase the divers bottom time as well as save valuable air by allowing the diver to quickly navigate to and from desired locations.

Modifications and Features: This product takes an existing technology, the Global Positioning System (GPS), currently used in both the marine and aviation industries, and extends its use to divers by providing the ability to be submerged under the water with the diver.

Potential Applications: The intended application of this invention is for use by "recreational" SCUBA divers for underwater navigation to various coordinates, such as the latitude and longitude of a shipwreck. The invention will also enable a safe and time saving return back to the decent location (i.e. a dive boat). This invention will also be used by professionals, such as police and military divers involved in search and recovery missions. Currently, a reel and line is used for navigation and marking of previously searched areas, this invention eliminates the need for aforementioned reel and line.

Closest Known Prior Art: I have found no other patents close to my idea. Any existing patents I have found are based on converting a GPS signal to a sonar signal, and transmitting this sonar signal through the water, which requires extensive hardware and would be cost prohibitive for an individual diver to operate.

The patent references referred to above are as follows:

5956291	Underwater diving assistant apparatus
5913078	Camera utilizing a satellite positioning system
5784339	Underwater location and communication system
5749150	Direction indicator for navigation
5708626	Trajectory measurement system for underwater vehicles
5669148	Altered light navigation device
5659520	Super short baseline navigation using phased delay processing ...
5655308	Illuminating navigation device
5570323	Navigation device for a scuba diver
6054950	Ultra wide-band precession geo-location system
6130642	Method and system to improve GPS navigation
6097670	Method and apparatus for tracking objects underwater
5952958	Positioning system and method
6029515	Navigation system for diving operations
5944768	Navigation System
5831574	Method and apparatus for determining the location of an object which may have an obstructed view of the sky

Inventor(s): John F. McGeever

Date of Signature(s):

The above confidential information is Witnessed and Understood:

Frank L. Pellegrini

Dan Considine